



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/056,270	01/24/2002	Janusz M. Kucharski	100.323US01	8559
34206	7590	09/20/2006	EXAMINER	
FOGG AND ASSOCIATES, LLC P.O. BOX 581339 MINNEAPOLIS, MN 55458-1339			DINH, TUAN T	
			ART UNIT	PAPER NUMBER
			2841	

DATE MAILED: 09/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

### Office Action Summary

Application No.

10/056.270

Applicant(s)
--------------

KUCHARSKI, JANUSZ M.

**Examiner**

Tuan T. Dinh

Art Unit

2841

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-6, 8-17 and 19-26 is/are pending in the application.  
4a) Of the above claim(s) 8-10, 14, 15, 19-21, 25 and 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 11-13, 16-17, 22-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_  
 5) ☐ Notice of Informal Patent Application  
 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 6, and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akiba et al. (U.S. Patent 6,353,540) in view of Theus (U.S. Patent 4,904,968).

As to claim 1, Akiba et al. discloses an electronic device as shown in figures 33-34 comprising:

a circuit board (23, figure 34-column 18, line 33);

a first circuit (26, column 18, lines 50-51) disposed on a first side (a top side) of the circuit board, the first circuit connected to a first ground plane (15, column 18, line 52) of the circuit board;

a second circuit (28, column 18, line 61) disposed on a second side (a bottom side) of the circuit board, wherein the second side is opposite the first side, the second circuit connected to a second ground plane (21, column 18, line 63) of the circuit board; and

wherein the first and second ground planes (15, 21) respectively lie in different planes (see figure 34) of the circuit board (23) and are electrically interconnected by a

conductive trace (figure 34 shows a circuitry electrically connected the first and second grounds 15, 21 through a resistor  $R_c$ ) disposed within the circuit board.

Akiba et al. specific does not disclose the second circuit operating at current levels substantially lower than the first circuit.

Theus shows a circuit board (10, column 4, line 62) comprising a first circuit (58) connected to a first ground plane (70), and a second circuit (12) connected to a second ground (36), the first and second ground planes are formed in a different plane, see figure 4, the second circuit (12) operating at current levels substantially lower than the first circuit (see abstract, and column 4, lines 39-42).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the circuit board having the second circuit operating at current levels substantially lower than the first circuit as taught by Theus employed in the device of Akiba et al in order to provide a radiation of the unnecessary electromagnetic wave due to the voltage variation between a power source and ground.

As to claims 2-4, Akiba et al. discloses the first circuit (26), which is a switch mode power supply, a forward-type switch mode power supply, or a flyback-type switch mode power supply, see figure 34, column 18, lines 50-51.

As to claim 6, Akiba et al. discloses the first circuit being adapted to power the second circuit.

As to claims 11-13, Akiba et al. discloses the device as shown in figure 1 the circuit board comprises two or more layers (column 18, line 33) disposed between the first and second sides, and the first ground plane (15) is disposed on one of the two or

more layers (S1, V1, and S2) and the second ground plane (21) is disposed on another of the two or more layers (S3, V2, and S4).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5, 16-17, and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akiba et al. ('540) in view of Theus ('968), and further in view of Hirashiro et al. (JP 406069680A, hereafter JP).

As to claims 5, and 16-17, Akiba and Theus disclose all of the limitations of the claimed invention, see claim 1, except for the second circuit being a control circuit controlling the first circuit. JP shows a second circuit that controls a first circuit.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a second circuit controls a first circuit, as taught by JP, employed in the printed circuit board of Akiba and Theus in order to facilitate control voltage to a power supply of a circuit board.

As to claims 22-24, Akiba et al. discloses the device as shown in figure 1 the circuit board comprises two or more layers (column 18, line 33) disposed between the first and second sides, and the first ground plane (15) is disposed on one of the two or

more layers (S1, V1, and S2) and the second ground plane (21) is disposed on another of the two or more layers (S3, V2, and S4).

### ***Response to Arguments***

5. Applicant's arguments filed 06/21/06 have been fully considered but they are not persuasive.

Applicant argues:

The combination of Akiba and Theus do not teach "the second circuit operates at current levels substantially lower than the first circuit"

Examiner disagrees, with respect to Akiba, the reference disclose two circuit devices (26, 28) formed on two different ground planes (G15, G21) through a resistor Rc as a trace, and because the devices 26, and 28 are different so that when they are connected to the ground planes and they are capable of being operated at different current levels, even though the reference does not express discloses, but that is well known skill in the art (noted: the examiner did discuss with Mr. Fogg on the interview on 05/12/06 on the Akiba reference), and for the applicant benefit, Theus teaches two components connected to different ground plane and operated at different current levels.

So, the examiner believes the rejection is proper and read on all of limitations of the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T. Dinh whose telephone number is 571-272-1929. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Enad Elvin can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'Tuan Dinh', with a long, sweeping horizontal stroke extending to the right.

Tuan Dinh  
September 12, 2006.